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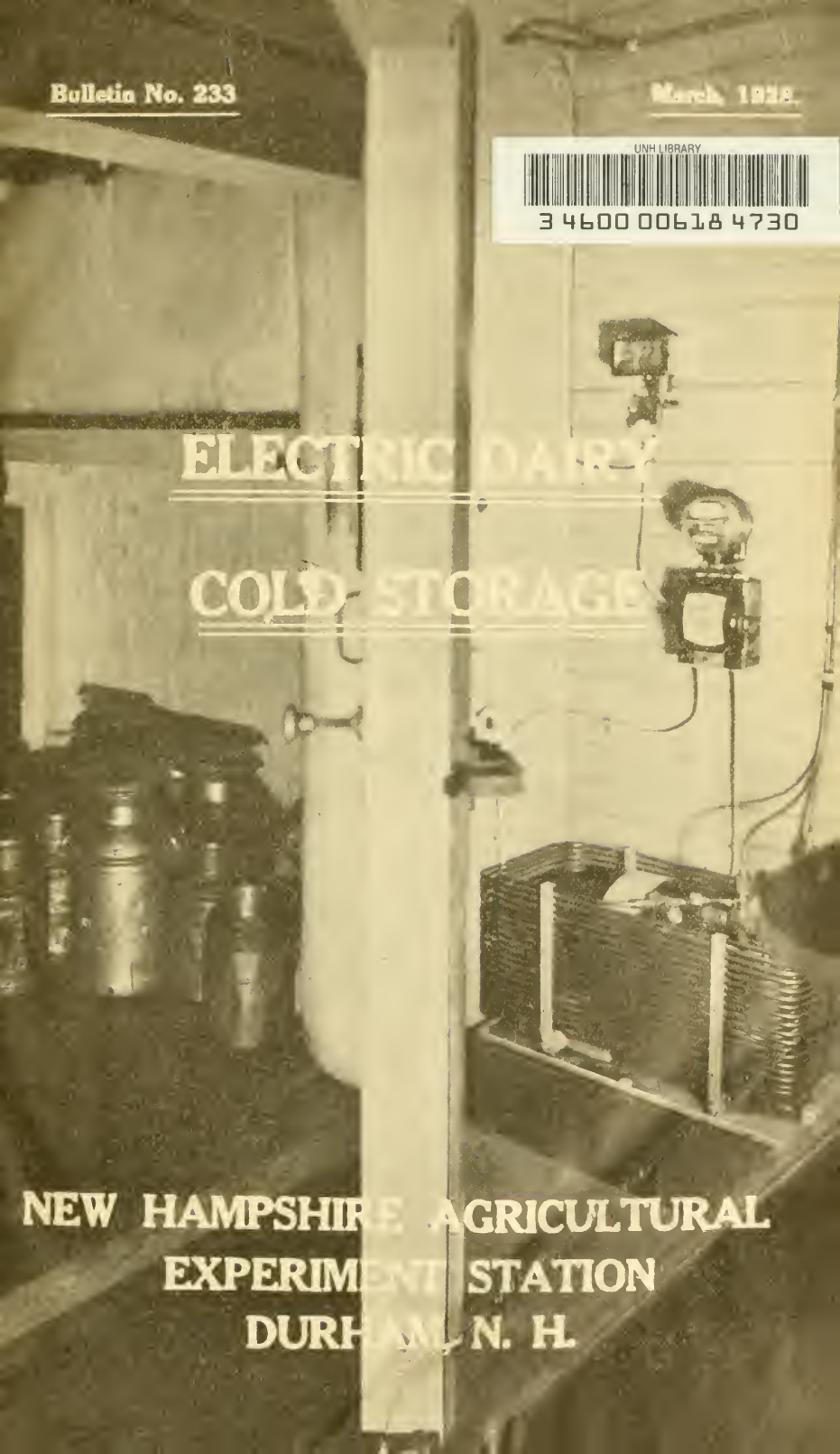

ELECTRIC DAIRY COLD STORAGE

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION
DURHAM, N. H.

Bulletin 241 May, 1929

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION

WHITE MOUNTAIN DEMAND FOR VEGETABLES AND POULTRY PRODUCTS

By E. H. RINEAR

THE UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.

WHITE MOUNTAIN DEMAND FOR VEGETABLES AND POULTRY PRODUCTS

By E. H. Rinear

The popularity of the White Mountain hotels and summer resorts creates a large market for food each year. For some time there have been frequent discussions regarding the possibility of supplying more of this demand for vegetables and poultry products from nearby sources.

The present study has resolved itself around the two main questions: first, what constitutes the hotel demand for vegetables and poultry products? Second, what type of service is necessary in fulfilling it? Costs of production were not studied in the present investigation.

The state-wide survey made in 1925 by the Experiment Station (N. H. Bulletin No. 222) brought out the facts as to the amounts which were being produced in New Hampshire and purchased from outside sources. The total season's purchases by White Mountain hotels during that year from farmers and weekly purchases from others outside are shown in Table 1. "It will be noticed that local farmers supply only a small portion of the total consumption of these hotels. The estimated value of vegetable purchases from local farmers is $42,000, while from others it is $80,000. A few products such as beets, carrots, cauliflower, spinach, string beans, peas, turnips, squash, potatoes, and sweet corn are nearly half supplied by farmers."

"Local farmers furnish only a small part of the poultry and eggs. In 1925 the hotels purchased 54,720 pounds of poultry, no turkey and 1,450 cases of eggs from local farmers, compared to 260,422 pounds of poultry, 36,000 pounds of turkey and 7,070 cases of eggs purchased from others."

Methods Pursued in Study

In studying the hotel preferences, ten vegetables were chosen which appear to be suited to local climatic conditions as many of them are now being successfully grown: beans, beets, carrots, cauliflower, cucumbers, green corn, green peas, head lettuce, spinach and tomatoes. Demand preferences were obtained in detail from the hotel managers, stewards and chefs as to variety, size, color, shape, grade and brands of these vegetables. Similar information was secured for eggs and dressed poultry.

Several trial shipments were made from southern points in New Hampshire to discover some of the difficulties which might arise in supplying this demand and also to learn the degree of satisfaction which such shipments would meet with the stewards.

Ten representative White Mountain hotels were selected as a basis for this study. Some of the best summer hotels were included in the group. Their capacity ranged from 100 to 600 guests.

Tourists and summer guests begin coming to hotels in the White Mountains during the early part of June. This transient population increases rapidly until the latter part of August and then declines very abruptly, until by the middle of September practically all the guests are gone and the hotels closed.

TABLE 1.—*Purchases by principal White Mountain hotels of various commodities from local farmers and from others, by weeks, for the year* 1925

Commodity	From local farmers	From others, week ending													
		Total	June 12	June 19	June 26	July 3	July 10	July 17	July 24	July 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28	Sept. 4	Sept. 11
Strawberries* (crates)	184	694	..	..	64	93	125	163	166	83	..	..	..	..	..	..
Blackberries* (crates)	65	147	..	..	..	..	..	..	22	52	55	11	7	..	..	..
Raspberries* (crates)	318	144	..	..	..	..	..	..	22	51	53	12	6	..	..	..
Blueberries* (crates)	351	668	..	..	..	..	..	..	101	236	248	53	30	..	..	..
Cabbage (bbls.)	331	1,278	70	86	95	105	129	145	141	141	138	79	50	40	31	28
Tomatoes (boxes)	345	1,715	..	25	54	81	106	128	154	178	209	234	253	264	29	..
Beets (doz. bunches)	471	49	1	1	2	4	4	4	5	11	4	3	4	2	2	2
Carrots (doz. bunches)	158	118	5	5	6	10	10	12	13	14	13	12	10	8	..	..
Cucumbers (boxes)	240	537	..	..	..	19	27	30	39	48	64	70	78	78	84	..
Cauliflower (boxes)	328	425	..	..	12	14	15	31	59	71	66	56	48	35	18	..
Beets† (bus.)	381	337	4	6	8	60	46	14	41	26	44	25	11	16	15	21
Spinach (bbls.)	564	236	..	..	5	6	21	35	53	57	59	..	..	..	..	..
String beans (bus.)	640	728	..	..	..	1	1	129	209	143	99	81	65	..	..	..
Shell beans (bus.)	57	147	..	..	..	5	5	26	34	28	20	17	12	..	..	..
Apples (boxes)	359	1,104	..	..	43	43	43	52	74	134	203	241	144	86	40	1
Chickens (lbs.)	54,720	260,422	..	2,630	8,015	12,025	13,011	16,020	20,305	38,100	40,700	39,500	30,800	20,000	19,316	..
Turkeys (lbs.)	..	36,000	..	390	1,401	1,692	1,872	2,376	3,240	5,652	6,408	5,580	4,284	2,808	288	..
Carrots† (bus.)	430	342	18	14	17	25	30	35	39	40	37	34	29	24	..	..
Peas (bus.)	1,470	328	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asparagus (bunches)	81	1,619	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Parsnips (bus.)	42	289	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Turnips (bus.)	1,032	264	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Squash (100 lbs.)	139	265	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Potatoes (bus.)	10,406	4,632	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Onions (bags)	24	980	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Celery (boxes)	20	1,472	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sweet Corn (10 doz.)	736	1,122	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pears (boxes)	..	523	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Butter (tubs)	156	2,177	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eggs (cases)	1,450	7,070	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Distribution based on receipts of all berries and harvesting dates of each kind of berries.
†Distribution of total purchases same as for beets (bunch) and carrots (bunch) respectively.

The investigation was carried on during August 1928, which is notably the busiest part of the hotel season. In many instances, the managers and stewards were rushed, so that the time was limited which they could allow for interviews. Courteous treatment was received in all cases and appreciation of the problem often expressed. These men were not acquainted with agricultural problems to the same degree; consequently, they varied in their opinions and interest in the subject. Furthermore, some of the hotels were better situated than others in that they were located near commercial gardeners. As a result, opinions differed regarding the satisfaction received from home-grown products, depending upon the experience of the stewards in purchasing from local sources. According to their replies they arranged themselves quite definitely in two groups; those who were or were not satisfied with local products.

Through the courtesy of several Boston wholesalers vegetable prices paid them by the hotels were secured. Additional prices covering the same period were secured from local producers located near the hotel district. It was not convenient to obtain prices paid by each hotel as the records were not easily available. The few prices procured were taken direct from the order sheets or given by the stewards from memory.

When visiting the hotels, inspection was made of the vegetables and poultry products in the refrigerator rooms. By this method, it was possible to note the quality, grade and brand of products from different sources and to learn the types of containers and packs used.

Checking up on the grades of the different vegetables purchased by the hotels and comparing with the grade requirements desired by the stewards showed quite definitely that all vegetables would have to be at least of U. S. No. 1 grade to satisy the demand. Many times it would require products of U. S. Fancy grade to fulfill the extra qualifications demanded by the stewards.

Demand for Vegetables

Although the investigation was limited in many ways because much of the information is based on the preferences of the hotel stewards, it is hoped the following outline will give a clearer idea of the requirements of the hotel demand. By examining Table 2, it will be noted there is much variation in the amount of vegetables used weekly by each hotel. This is due to varying hotel capacities, preferences and also to the extent to which each hotel had been able to purchase satisfactory products. Often a hotel used more spinach, peas, or head lettuce per guest than another because it could procure them locally.

The Boston box and bushel basket were the containers generally used. Occasionally an extra charge is made for the container by Boston wholesalers. At such times the stewards choose the one which was the cheapest. When there is a shortage of storage space in the hotel refrigerator rooms, it is necessary to stack the goods. This is accomplished in an orderly manner when the products are put up in substantial containers of uniform size and shape. When local growers supply the hotels it is customary for the boxes to be returned although one steward stated that this was a nuisance.

TABLE 2.—*Vegetables: Maximum weekly amounts used in ten White Mountain hotels*

Vegetable	Unit	Amounts used weekly by Hotels										
		Total	A	B	C	D	E	F	G	H	I	J
Beets, cut off.....	Boston Box	47	4	..	1	10	6	5	5	3	1	12
Carrots	"	37	2	3	1	12	2	2	3	3	1	8
Cauliflower	"	64	..	..	..	12	1	8	16	12	..	15
Cucumbers	"	13¾	1	1	½	3	2	..	1	1	¼	4
Green Corn.....	"	278	20	30	8	40	30	25	35	40	15	35
Green Peas.....	"	93	7	5	4	10	5	8	25	4	4	21
Head Lettuce.....	"	124	5	8	3	24	7	6	25	21	4	21
Spinach	"	95	6	8	3	18	3	5	28	12	3	9
String Beans.....	"	94	4	5	2	50	4	3	5	10	5	6
Tomatoes-Hothouse	Lbs.	782	45	60	15	180	12	40	45	105	50	230

Beets

The stewards were unanimous in their choice of an oval-shaped dark red beet although no varietal preferences were given. All of them desired a medium beet from 2 to 3 inches in diameter, except one who preferred a small beet of less than 2 inches.

Lengths of tops desired varied from nothing up to 12 inches. The stewards' preferences were as follows: No tops by two, ½ inch by one; 1 inch by one; 2 inches by one and 12 inches by one. The only precaution suggested regarding length was to have the tops long enough so that the beets would not bleed. All tops were left on during the first part of the season when suitable for beet greens.

In one instance, canned beets are used instead of fresh because it is claimed they retain their color better.

In checking through the table orders one manager was quite surprised to learn that more orders were received for buttered beets during the season than any other vegetable on the menu.

The Boston box and jumble pack is the package commonly used. A non-returnable container was desired by one steward. It was immaterial to the stewards whether the beets were bunched or how many were put in a bunch.

The need of fresh beets was especially emphasized. Undoubtedly this is one of the reasons why nearly all beets were secured locally, as shown in Table I.

Carrots

A limited amount of information was procured regarding the demand for carrots. The stewards were inclined to take this vegetable for granted and let it pass without many necessary qualifications. Size was the main factor discussed. Four stewards wanted carrots as large as possible in order to use them in soups. Smaller sizes were preferred when serving them buttered or creamed. In most cases the tops should be trimmed back to one-half inch in length.

The source of the supply was about equally distributed between local growers and Boston wholesalers, and sample data correspond fairly well with the amounts shown in the previous survey. Future development in growing more carrots is feasible in several sections.

Containers used were the Boston box and the bushel basket. There was no stated preference as to the container for local carrots.

Cauliflower

The main characteristics emphasized regarding cauliflower were that the heads be compact and that the jacket leaves be freshly trimmed and not discolored. Large heads were usually preferred; several wished the heads to be six inches in diameter, while one desired a medium size.

As a rule the stewards purchased cauliflower from Boston until they were able to buy it locally. Several hotels could not procure it locally and therefore obtained their supplies regularly through Boston wholesalers.

One steward purchased by the head, while another bought by the box containing eight heads. The Boston box is the usual container used both by the outside agent and local grower. According to general opinion, the consumption of cauliflower is increasing.

Very few complaints were made against cauliflower produced locally. It would appear that the production of this vegetable could be increased by local men.

Cucumbers

Slicing cucumbers were not in as great demand as the other vegetables. One hotel manager stated he never used them.

Fresh, firm and well developed cucumbers were desired of dark green color. Those of medium size from six to nine inches long were usually preferred.

The majority of the hotels visited purchased hot-house cucumbers from Boston until local grown field cucumbers were available. This change was seldom made before the first week in August. Several stewards complained in regard to the high price which they had to pay for hot-house cucumbers.

Because the amount of cucumbers used is small, they are ordered by the dozen and shipped in the Boston box.

Green Corn

When the subject of green corn was brought up for discussion, keen interest was manifested by the managers and stewards. A large number of the hotels are situated north of the corn borer-infected area which makes it difficult for them to obtain fresh corn from southern points. All the stewards were anxious to procure green corn many weeks before it was available.

Golden Bantam was decidely the favorite, being preferred by seven of the stewards. Golden Evergreen, Country Gentleman, and Stowell's Evergreen each received one preference.

All the general characteristics for sweet corn of U. S. No. 1 Grade were mentioned by the stewards in describing what they considered necessary qualities of good corn. Medium-sized ears were desired having fresh green husks. The kernels should be small and well filled. Some wanted the rows of corn irregular while others preferred the rows to be straight.

Nearly all the hotels studied were buying corn from New Hampshire growers. Some of it was being shipped from Claremont via express and arriving in good condition. The hotels using corn from these sources were much better satisfied than with the corn they were able to purchase from Boston. It was fresher and much more palatable. Referring to Table 1, it will be noted that a large amount of the sweet corn was purchased from other than local farmers. This is caused to a large extent by local men planting their corn at about the same time instead of making several plantings and lengthening the period through which they might sell.

Green Peas

Fresh peas are in great demand. Two stewards stated that the guests ordered peas more than any other vegetable, many requesting them three times a day when in season. These peas were supplied by a local grower who delivered them promptly after picking so that none of their freshness or flavor was lost.

To satisfy the hotel demand, peas should be fresh and tender, and the pods well filled and reasonably uniform as to maturity. All the hotels visited except one were purchasing peas from local growers, finding them of better quality and more satisfactory than those from Boston.

Peas vary greatly in yield, so that those which were highest in price per bushel may be cheapest per pound when shelled. One steward followed the suggestion of a local grower and compared the shelled weights of peas from several sources. It so happened that the peas which cost the most per bushel yielded best, resulting in the lowest net cost per pound. Through care in picking and grading, this grower was given a premium over his competitors and the stewards obtained a superior product at a lower net cost.

Head Lettuce

Decided preference was shown for the New York type of head lettuce. The stewards emphasized many characteristics which should receive more attention by local as well as more distant growers. They desired firm, well trimmed heads, uniform in size with wrapper leaves free from dis-

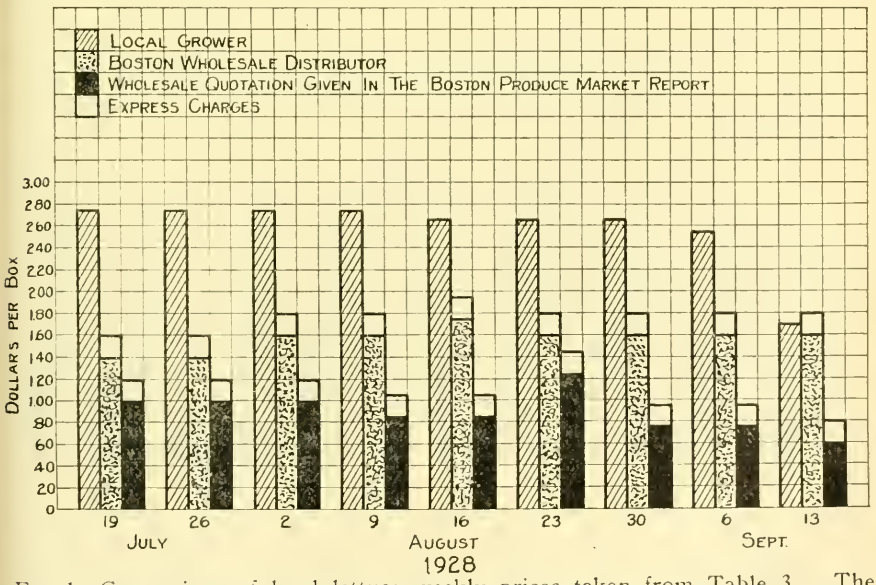

FIG. 1—Comparison of head lettuce weekly prices taken from Table 3. The average weekly price of the local grower is constantly above that of the Boston wholesaler and the quotation given in the Boston Market Report. (Approximate express charges from Boston to the White Mountain hotel district of twenty cents a box are added to the two Boston quotations, so that they will be comparable with the price received by the local grower.)

coloration. Other qualities mentioned were freshness, fine texture and tenderness.

Lack of firmness in the heads was the general complaint regardless of source. It was said that all head lettuce resembled cabbage leaves in that it was too coarse in texture. Because of the various ways of serving, it is essential that the heads be compact. One hotel prefers to slice the lettuce crossways and to cover the pieces with mayonnaise dressing. The more compact heads required much less dressing. Others cut the heads in quarters and thirds which again requires firm heads. The outside leaves are used for garnishing and it is necessary that they be fresh and free from discoloration.

Local grown lettuce has a distinct advantage over that from Boston because it can be delivered to the hotels with a small amount of handling and in fresher condition. Complaints were often made that the lettuce shipped from Boston was not fresh, also that the outside leaves were so badly damaged they could not be used for garnishing. On the whole more recommendations were made for local than for imported lettuce. The main qualities mentioned for the former were that it is fresher, more crisp and tender and of finer texture.

The demand for head lettuce is increasing among the hotels and affords a splendid market for a few local growers.

Spinach

Considerable difference of opinion was found in the same hotel regarding what constitutes the best spinach. The manager of one hotel

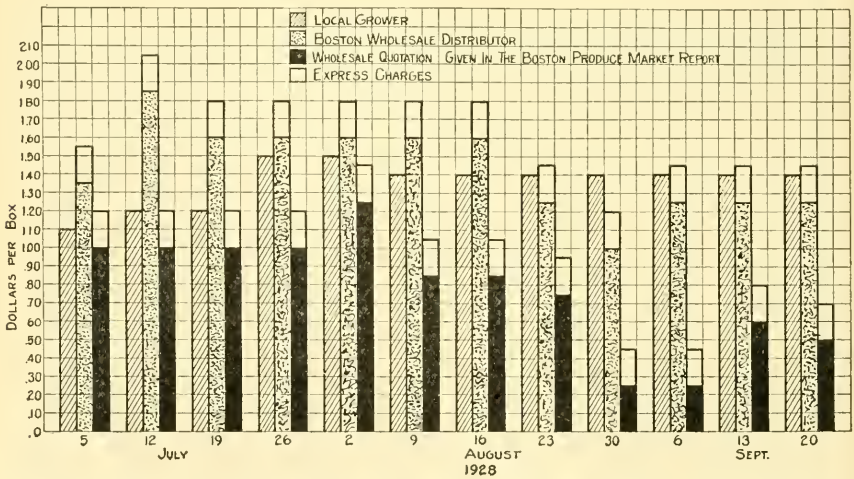

FIG. 2—Comparison of spinach weekly prices taken from Table 3. The price received by the local grower was in accord with wholesale quotations during the month of July but was maintained at a high level thereafter regardless of terminal market changes. The price received by the Boston wholesaler followed the market trend as shown in the quotation of the Boston Produce Market Report but it held to a wide margin above the quotation. (Approximate express charges from Boston to the White Mountain hotel district of twenty cents a box are added to the two Boston quotations, so that they will be comparable with the price received by the local grower.)

liked the crinkly type, while the chef preferred the smooth New Zealand variety, stating that it was much easier to clean, had less waste and that none could tell the difference between the two when cooked. Of the ten hotels visited, six of the stewards desired the crinkly type, two the smooth and the other said it made no difference. Other characteristics desired were that the leaves be dark green in color and the stems short so that they would be tender.

No real objections were made to local grown spinach. In fact, many stewards stated it was superior to any which they could buy from Boston. Seven hotels were obtaining all the spinach they needed from local sources except early in the season when they are unable to do so and have to purchase from points further south.

The basket and bushel box were the usual containers, and no particular preference was shown for either one.

String Beans

Green string beans were preferred to wax, which many believed were more spotted. The Kentucky Wonder was the general favorite.

It was a common practice to serve each variety separately and to alternate them on the menu, although one steward preferred to purchase both varieties and mix them together when serving. Another substituted green peas for beans as soon as local peas were available.

As a general thing, the stewards purchased all the local beans possible and sent to Boston for the rest. Some hotels received their supplies continuously from local growers who had made previous arrangements with the stewards to furnish them regularly throughout the growing season. Such arrangements were proving satisfactory, both to the grower and to the hotel.

Apparently the supply of wax and string beans could be increased considerably as no difficulty is encountered except the need of dependable growers.

Tomatoes

A large share of the tomatoes used are grown in hot-houses and are very satisfactory as they are well graded, wrapped in paper and packed in cartons. The stewards continue to purchase them after field tomatoes are on the market, because they are so well adapted to their needs. Since the tomatoes are used almost entirely for salad purposes, it is essential that they be uniform as to size, color, shape and quality. This is especially true when the whole tomato is used as a container for other concoctions. Four stewards desired tomatoes ranging in diameter from 2¼ to 2½ inches. Dark red color was the general favorite, although one wished a yellowish red.

The general complaints regarding home grown tomatoes were due to field production and the lack of rigid grading. Too often, the tomatoes were cracked, irregular in shape and of uneven color, firmness and size.

TABLE 3.—*Vegetable Prices: Comparison of Prices Received by a Local Grower and a Boston Wholesale Distributor with Wholesale Quotations.*

Vegetables	Unit	Prices Received and Quoted on Same Date											
		July 5			July 12			July 19			July 26		
		Local Grower	Boston Dist'br	*Wholesale Quotation	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W. Q.
	Boston												
Beets, cut-off	Box	..	2.60	..	..	3.25	..	..	2.75	..	3.00	2.60	..
Carrots, cut	"	..	1.50	..	..	2.50	..	..	2.50	..	..	2.50	1.75
Cauliflower	"	2.46	2.75	2.00	2.46	3.75	..	2.46	2.25	..	3.00	3.50	..
Cucumb's, hot-house	"	..	7.50	6.00	..	8.60	5.00	..	6.60	3.00	..	7.10	6.00
Green corn	"												
Green peas	"	..	3.50	2.50	3.69	3.10	2.50	3.69	2.75	2.75	3.69	3.25	3.00
Head lettuce, native	"	..	1.25	1.00	..	1.40	1.00	2.75	1.40	1.00	2.75	1.40	1.00
Spinach	"	1.10	1.35	1.00	1.20	1.85	1.00	1.20	1.60	1.00	1.50	1.60	1.00
String beans, wax	"	..	3.75	..	..	2.75	1.50	..	2.25	1.25	..	2.00	1.50
Tomatoes, hot-house	Lb.	..	.25	.20	..	.28	.22	..	.28	22	..	.28	.20

*Boston Produce Market Report: Top price 1928

Vegetables	Unit	August 2			August 9			August 16			August 23			August 30		
		L. G.	B. D.	*W Q	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W. Q.
	Boston	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Beets, cut-off	Box	3.00	2.10		3.00	2.60		3.00	2.10	..	2.50	2.10	.75	2.50	2.10	1.00
Carrots, cut	"	..	3.50	1.25	..	3.25	1.25	4.00	2.60	1.25	3.50	2.10	1.25	3.00	2.10	.75
Cauliflower	"	3.14	3.50	..	3.14	3.50	..	3.20	3.50	..	3.20	3.75	..	2.80	2.00	..
Cucumb's, hot-house	"	..	6.10	3.00	..	5.60	3.00	..	5.60	3.00	..	4.60	1.75	..	4.10	..
Green corn	"	..	..	2.50	..	..	2.50	..	2.50	1.75	1.25	1.60	1.00	1.25	1.25	.60
Green peas	"	3.69	3.60	2.00	3.40	3.10	3.00	3.40	..	2.50	3.40	..	2.00	3.40	..	..
Head lettuce, native	"	2.75	1.60	1.00	2.75	1.60	.85	2.66	1.75	.85	2.66	1.60	1.25	2.66	1.60	.75
Spinach	"	1.50	1.60	1.25	1.40	1.60	.85	1.40	1.60	.85	1.40	1.25	.75	1.40	1.00	.25
String beans, wax	"	..	2.75	2.00	..	2.50	1.25	..	2.50	1.75	..	2.50	1.50	2.60	..	1.50
Tomatoes, hot-house	Lb.	..	.28	.20	..	.33	.28	..	.23	.28	..	.17	.10	..	.15	.05

*Boston Produce Market Report: Top price 1928

Vegetables	Unit	September 6			September 13			September 20			September 27		
		L. G.	D. B.	*W Q	L. G.	B. D.	*W. Q.	L. G.	B. D.	*W Q	L. G.	D. B.	*W Q
	Boston												
Beets, cut-off	Box	2.00	1.90	1.00	2.00	1.90	1.25	2.00	1.75	1.25	1.75	1.60	1.00
Carrots, cut	"	2.75	2.10	.75	2.75	2.35	1.00	2.75	2.10	1.00	..	1.75	1.25
Cauliflower	"	2.77	2.00	3.00	2.50	2.00	3.00	2.75	2.00	3.00	2.75	2.00	2.25
Cucumb's, hot-house	"	..	6.10	..	..	7.10	..	..	8.60	..	..	8.60	..
Green corn	"	1.25	1.25	.65	1.25	1.75	1.75	1.25	2.00	1.00	1.25	2.00	1.50
Green peas	"	..	..	..	..	..	..	..	..	..	..	..	..
Head lettuce, native	"	2.56	1.60	.75	1.70	1.06	.60	..	1.25	.60	..	1.10	.50
Spinach	"	1.40	1.25	.25	1.40	1.25	.60	1.40	1.25	.50	..	1.50	.75
String beans, wax	"	2.85	..	2.00	2.85	..	1.50	2.60	2.00	..	2.60	..	2.00
Tomatoes, hot-house	Lb.	..	.12½	.05	..	12½	.05	..	.12½	.05	..	.35	..

*Boston Produce Market Report: Top price 1928

Vegetable Prices

In order to show the effect of hotel preferences on vegetable prices, it was necessary to obtain prices from a few growers in the White Mountain district and from several Boston wholesale houses that are regularly supplying this demand. By further comparing these prices with the quotations given in the Boston Produce Market Report it is possible to estimate the premiums paid.

It will be noted that the prices received by the local grower are always above market quotations. (See Table 3) However, this amount does not represent premium entirely because delivery was made to the hotels. In general, the stewards stated they were willing to pay as much for local products of equal quality as those from Boston would cost after all charges were paid. On this basis, the apparent premiums of local growers should be reduced by the amount of express charges and other delivery costs incurred in obtaining vegetables through Boston sources.

Express rates vary somewhat from the White Mountain section; charges per cwt. from Boston to North Conway, Bretton Woods, Bethlehem and Whitefield are $1.24; to Plymouth $1.09.

The prices given under the heading of a Boston distributor are representative of those received by the wholesalers who are accustomed to supplying the hotels. Although these prices are F. O. B. Boston, it will be noted they are higher than the market quotations for all vegetables except cauliflower and tomatoes. (See Table 3) The extra margin is partly due to handling charges for services rendered. It may also be the result of higher quality goods. Any published quotation necessarily has to represent the average going price. It is possible that other price levels exist above the average price for a smaller amount of goods of high quality. Attention is also called to the fact that this house was able to supply several commodities many weeks before these products were quoted in the Boston Produce Market Report which would tend to show that they are rendering extra service in catering to the hotels.

The varying margins obtained for head lettuce by the local grower and Boston distributor over market quotations are illustrated in Figure 1. The local grower furnished head lettuce of superior quality, or the hotels would not have been willing to pay a premium for it consistently over other sources. Toward the forepart of September his lettuce was of poor quality and the price was lowered.

Although the local grower received a higher price for lettuce throughout the season than that obtained by the Boston distributor, this condition did not hold true for spinach. (See figure 2) In the forepart of the season the local grower received a price which was above market quotations and below the price of a Boston wholesaler; in five weeks time the price was lowered to $1.40 a box and continued throughout the season regardless of terminal market changes. During the weeks of August 30th and September 6th, he received a price for spinach over five times as great as the quotation. On the other hand, even though the wholesale house secured a large margin over quotations, it followed the general market changes. These illustrations show some hotels are willing to pay a high price regardless of market conditions when they are furnished quality products.

Dependable Supplies

The summer hotel business changes regularly with the weather. This uncertainty causes the demand for food to vary daily. It is, therefore, necessary that the stewards establish connections wih dependable parties if the hotel is to be operated successfully. To secure the great variety of items required for such operation, it is necessary to purchase them in a terminal market. Orders are telephoned and filled on short notice. The majority of hotels are able to obtain express delivery to their nearest station within 24 hours after placing the order. The wholesalers in Boston have been catering to this trade for some time and have built up a reputation for dependability in supplying products of the quality desired. Also they are willing to make any needed adjustments where dissatisfaction occurs. When the stewards are certain to receive services of this kind they are not over-anxious to drop them and experiment with products from local growers of unknown reputation. Previous experience with some local growers has been very unsatisfactory and exasperating. The local grower may have failed to fill the orders as agreed, making the excuse that it had rained or giving some other reason of equal importance. Lack of grading or even trying to grade to satisfy the hotel demand was another common complaint made against this type of grower. The stewards stated they could not afford to bother with these men because they had to regrade the products.

Two classes of local growers are supplying vegetables to the White Mountain hotels. At the present time the largest part comes from commercial growers who depend on the hotel trade for their main source of income. A smaller part is supplied by men who grow and sell vegetables as a sideline. Often the large grower has kept definite time and production cost records on all the vegetables produced so that he can determine which are the most profitable. The small grower with vegetables as a sideline does not figure his production costs so definitely and looks on this added income as practically all gain. Usually this type of grower produces one crop. He does not make plantings at such regular intervals as the large grower who plans to furnish a dependable supply of fresh vegetables throughout the season.

Competition between growers of these two classes causes difficulties to arise. The small grower is often willing to sell his produce at a price below the market, which has a demoralizing effect. Even though the small grower sells for a short time, he may cause the price to be set at a low level for a sufficient period to make the larger grower actually lose money.

To protect themselves from this type of competition some commercial growers have found it advisable to contract with the stewards, agreeing to supply them regularly throughout the growing season. Through cost accounting methods covering several years one grower has learned he cannot afford to grow peas and sell them for less than $4.00 a bushel. He has made arrangements with the hotels to supply them regularly at this price regardless of market prices or local competition. From the hotel's point of view this is a very satisfactory arrangement. As has been previously shown hotels are in a position to pay for quality goods.

Where these contracts have been entered into and followed, entire satisfaction has resulted. The hotels were assured of receiving a regular supply, and the grower could regulate his planting areas so as to have sufficient amounts available to care for the contracted demand and be sure to receive a remunerative price for the product.

Delivery Service

Most White Mountain hotels are located some distance from railroad stations and all suplies shipped by rail have to be trucked to their final destination. This fact causes the hotels considerable inconvenience. Decided preference is shown the local men when they can make delivery, provided their products satisfy the demand, as the local products can be delivered in less time than those from Boston. Often local men receive calls and make delivery a few hours later. In several instances, the stewards intimated they would pay a premium for this service. One remarked, "Local farmers have a distinct advantage over outside sources because they can deliver direct." Not only did the products arrive in fresher condition, but there was a smaller percentage of waste due to the fewer handlings and to the shorter time in transit.

There are other important advantages which local men have through this contact. They can compare their goods with those from other sources and study at first hand the requirements of each hotel. If their products are not satisfactory, the steward will soon tell them, and any needed adjustments can be attended to before the business is lost.

Hotel Gardens

Several hotels included in the investigation had their own gardens and grew many of the vegetables needed. This practice is being discontinued where the managment is able to purchase regularly from a local grower; for experience has proved the latter course much cheaper and more satisfactory. Occasionally gardens are kept for show purposes and charged up to advertising even though they are operated at a loss. One manager stated they were changing over from vegetables and growing flowers. These flowers were placed in the guests' rooms every day. He believed the intangible benefits more than made up for the value of the vegetables which they had formerly produced.

Possibilities of Development

Because the growing season in the mountain section is short, there is the possibility of gardeners farther south supplying the hotel trade. In testing out this possibility the cooperation was secured of W. P. Tuttle, a commercial gardener of Dover, N. H., who supplied several boxes of tomatoes for trial shipment. These tomatoes were uniform in size and free from blemishes. All were wrapped and packed in standard Boston boxes. One steward was so well pleased that he allowed 24 cents a pound for them, which was the price for hot-house tomatoes.

In the opinion of this grower, however, it is not practicable for him to furnish the hotel trade with tomatoes as he has his regular customers to supply.

On the whole the prospects are good for the development of more commercial gardens. There are sections of the White Mountain hotel district which are being well cared for by local growers, and there it would be unwise for other men to start in the business. In those sections which are still largely dependent on Boston for their vegetable supplies, oportunities exist for a limited number of local growers. This does not mean that everyone who tries vegetable gardening will be successful. The hotel demand is very exacting and requires a high degree of specialization in production as well as marketing.

Because the hotels are open for a short time and the demand for food is so dependent on the weather, there may be times when local growers will have a surplus of vegetables. There is always the possibility of supplying nearby New Hampshire cities which are within trucking distance as the previous survey (See N. H. Station Bulletin No. 222) showed large amounts were being purchased from more distant sources during the same period.

The numerous summer residents of New Hampshire provide splendid markets for those who wish to sell on a retail basis. This type of market is supplied best by local men when a definite route is covered daily or at regular intervals. At such times, it is also possible to sell a variety of farm products. Many instances were found where local men are taking advantage of such opportunities.

DEMAND FOR POULTRY PRODUCTS

Eggs

A general impression of the volume of eggs required by the White Mountain hotels visited is given in Table 4. These amounts include all classes of eggs used by each hotel during a week when running at

Table 4—*Eggs: Maximum amounts used in a week and prices paid by ten White Mountain hotels.*

Hotel	Cases used per week	Date of Purchase	Price per Dozen		
			Price Paid		*Wholesale
			Local	Other Source	Quotation
A	10	July 25, 1928	.40	..	$.47
B	7	" 30		.42	.48
C	3	Aug. 1		.47	.48
D	23	" 7		.47	.50
E	10	" 8	.51	..	.50
F	6	" 8		.54	.50
G	15	" 9		.46	.50
H	16	" 10		.46	.50
I	5	" 21		.54	.53
J	21	" 22	.54	.54	.54

*Boston Produce Market News: Top price, nearby hennery, brown extras.

full capacity. Eggs of the best quality were required for frying, poaching and boiling, and those of a lower grade were used for baking and for other cooking purposes.

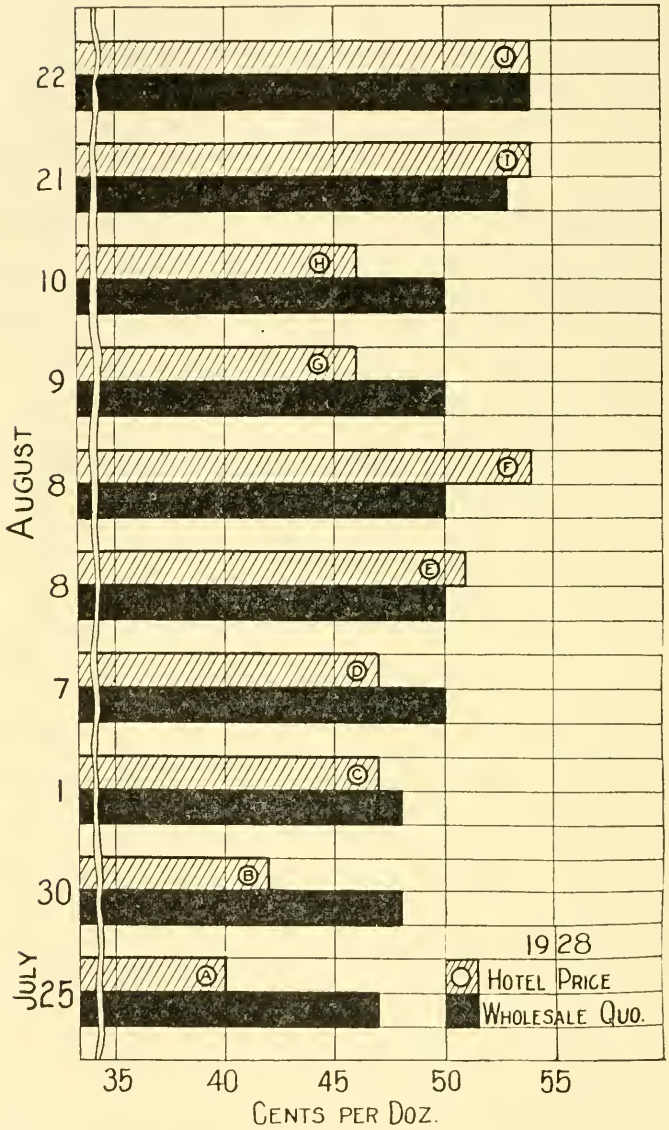

FIG. 3—Prices paid by the hotels for eggs on day visited. It will be noted there is a wide range in prices paid by the different hotels; this is to be expected when eggs are purchased from many sources. (See Table 4)

Egg Preferences

All of the stewards were anxious to obtain eggs that could be depended on not to make trouble. One bad egg could do a great deal of harm to their business. A brand of eggs put out by a large concern gave almost entire satisfaction. Three of the stewards remarked they never had any trouble with this brand of eggs, and another stated it was 90 percent perfect as to uniform colored yolks. These eggs had been candled and graded so that they were of uniform freshness, yolks of same color, all of the same size, shape and other quality factors required to meet definite standards. Eggs from a reliable source of such high quality afford real competition for a New Hampshire poultryman. Local men have the decided advantage in being located nearby, as the majority of the eggs purchased come from more distant points, thus requiring greater time in handling than would be necessary in assembling and transporting eggs from local sources to the White Mountain hotels.

Although freshness of eggs was given the greatest emphasis, other factors were mentioned. Uniformity in color of the egg yolks was especially desired for poaching and frying. When not uniform the guests are usually dissatisfied. The stewards differed in their preferences as they had on previous commodities. Two preferred brown eggs, two others wanted white, and six purchased eggs of mixed colors. The two desiring white eggs stated that the yolks of white eggs were more uniform in color than those of brown. On the other hand one of the stewards preferring brown eggs said their yolks were more uniform as to color than white. It shows that anyone furnishing the hotels would do well to learn the preference of each steward. Two hotels contracted ahead with Boston wholesalers for all the eggs needed during the season. The managers were well pleased with the arrangements as they evidently were obtaining a satisfactory supply. Another hotel manager refused to make such arrangements for fear of getting cold storage eggs.

Egg Prices

Egg prices paid by the hotels are compared with the same day's highest wholesale quotation for nearby hennery brown extras as given in the Boston Produce Market Report. These prices are presented in Table 4 and Figure 3.

There is a wide range in prices. Local eggs were purchased by three hotels. One paid the same price for local shipped-in eggs, which equaled the highest market quotation; another paid one cent over quotations, and the third paid seven cents under quotations for eggs from nearby sources In each instance these eggs cames from a different collector. In the opinion of the stewards these eggs were resold as received from individual farmers; that is, they were not candled nor graded by the collector.

The other low price of 42 cents a dozen was 6 cents below the quotation and was a contract price made with a Boston house. The white eggs which the stewards had described as "perfect" and giving splendid satisfaction were purchased for 46 and 47 cents a dozen, or 4 to 3 cents below quotations.

Even though local eggs were bringing a price equal to or above wholesale quotations in several instances, the question still remains how much more the managers and stewards would be willing to pay for local fresh eggs, if they were candled and graded according to definite standards.

Many poultrymen in the southern part of the state are not over-anxious to sell to the hotels because they have such a good retail market near by. Although the stewards occasionally pay a premium over the wholesale market which makes a price nearly equal to retail, apparently it has not been sufficient to attract the egg shippers from the southern sections.

Dressed Poultry Demand

Detailed information was obtained from the stewards regarding their preferences for broilers, roasters and fowl, the weekly amounts used and prices paid. These data are partly given in Tables 5, 6, and 7 respectively. The amounts of broilers used weekly by a hotel varied from 50 to 672 pounds, roasters from 75 to 400 pounds and fowl from 100 to 700 pounds. These figures represent the maximum weekly amounts needed by the hotels when at full capacity.

The points emphasized by the stewards as necessary to satisfy the demands of the best White Mountain hotels for dressed poultry may be grouped in the following order:

1. Milk fed birds
2. Light colored heavy breeds
3. Fresh, properly killed and dressed
4. Uniformly graded as to size, color and other qualifications
5. Neatly packed
6. Dependable service

Milk fed poultry was desired in preference to any other. The stewards claimed the quality of the flesh was much superior; that the fat was more evenly distributed throughout the muscle fibers which caused the flesh

TABLE 5.—*Broilers: Maximum amounts used in a week and prices paid by ten representative White Mountain hotels.*

Hotel	Pounds used in a week	Broiler Prices per pound			
		Date of Purchase	Price Paid		*Wholesale Quotation
			To local source	To Boston source	
A	100	July 28, 1928	..	.37	$.37
B	110	" 30	..	.40	.36
C	50	Aug. 1	.35	..	.37
D	400	" 7	..	.40	.37
E	275	" 8	..	.42	.37
F	400	" 8	.55	..	.37
G	189	" 9	..	.45	.37
H	180	" 10	..	.41	.37
I	140	" 21	..	.42	.38
J	672	" 22	..	.41	.38

*Boston Produce Market News: Top price for Western fresh broilers, dry packed, 12 to box, 21 to 24 pounds.

(Express charges from Boston to hotels of approximately $1.15 a hundred pounds should be added to Boston quotations to have prices on comparable basis with local.)

Table 6.—*Fowl: Maximum amounts used in a week and prices paid by ten representative White Mountain hotels.*

Hotel	Pounds used in a week	Fowl Prices per pound			
		Date of Purchase	Price Paid		*Wholesale Quotation
			To local source	To Boston shipper	
A	150	July 25, 1928	..	.33	$.32
B	500	" 30	..	.34	.32
C	100	Aug. 1	.32	.32	.32
D	600	" 7	..	.34	.33
E	200	" 8	.35	..	.33
F	150	" 8	..	.35	.33
G	720	" 9	..	.34	.33
H	400	" 10	.32	..	.33
I	216	" 21	.36	.36	.34
J	400	" 22	..	.36	.34

*Boston Produce Market News: Top price, Western fresh killed, dry packed, 12 to box, 60 to 65 pounds.

(Express charges from Boston to hotels of approximately $1.15 a hundred pounds should be added to Boston quotations to have prices on comparable basis with local.)

Table 7.—*Roasters: Maximum amounts used in a week and prices paid by ten representative White Mountain hotels.*

Hotel	Pounds used in a week	Roaster Prices per pound			
		Date of Purchase	Price Paid		*Wholesale Quotation
			To local source	To Boston source	
A	300	July 25, 1928	..	.46	$.44†
B	85	" 30	..	.38	.44†
C	75	Aug. 1	.40	.40	.50‡
D	360	" 7	..	.43	.50‡
E	400	" 8	.38	..	.50‡
F	150	" 8	..	.50	.50‡
G	192	" 9	..	.50	.50‡
H	280	" 10	..	.43	.50‡
I	216	" 21	.55	.55	.50‡
J	None	" ..	..	..	..

*Boston Produce Market News: †Top price for Western fresh frozen; ‡Native fresh killed.

(Express charges from Boston to hotels of approximately $1.15 a hundred pounds should be added to Boston quotations to have prices on comparable basis with local.)

of the bird to be tender, juicy and of splendid flavor. Complaints were made of local dressed poultry that it was stringy, tough, and not adapted to their needs. Further investigation showed that these men had not confined their poultry previous to killing nor fed it on milk rations so that the meat would be in condition to suit the hotel demand. Usually the birds were killed without any previous conditioning. Needless to say these men failed to obtain repeat orders.

Broilers from the light colored breeds were desired in the majority of cases. Some of the stewards and chefs were emphatic on this point. They claimed the white feathered broilers were more attractive in appearance when served than the dark feathered, because with the latter the

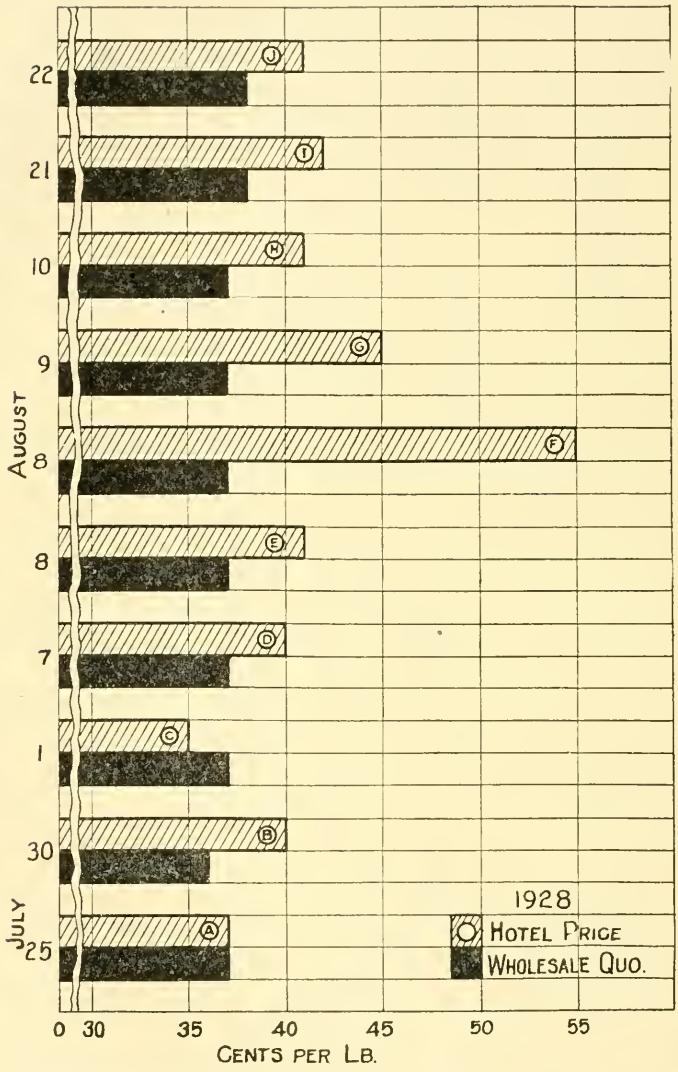

FIG. 4—Prices paid by the hotels for dressed broilers on day visited. These prices averaged above the quotations given in the Boston Produce Market Report on the same day. The highest price, 55c. a pound on August 8, and the lowest price, 35c. a pound on August 1, reported by Hotels F and C respectively, were for local grown and dressed broilers. (See Table 5)

dark pin feathers and pigment in the feather follicles were more visible However, this color preference was not made for fowl or roasters as both classes are cooked and served differently, so that the color factor is not so noticeable.

Dressed poultry was preferred from those breeds which have coarse muscle fibers and relatively less connective tissue because they give a more tender flesh. Comparisons of cross-sections of meat representative of White Leghorns, Barred Plymouth Rocks and Buff Orpingtons show White Leghorns to have the smallest amount of muscle fiber and largest amount of connective tissue; whereas with Buff Orpingtons the reverse was true. Barred Plymouth Rocks belonged in the class intermediate between the other two; Rhode Island Reds are in the nomenclature of Barred Plymouth Rocks, or other general purpose breeds.*

Dressed Poultry Prices

Since it was impossible to visit all the hotels at one time the prices received are scattered over a period from July 25 to August 22. In order to present these prices on a comparable basis, the highest wholesale quotations given for boxed western fresh broilers, western fresh frozen and native fresh-killed roasters and for western fresh-killed fowl in the Boston Produce Market Report were used along with the top prices reported paid by the hotels on the same day. See Tables 5, 6, and 7. A wide range of prices results between hotels on the same day which would indicate that dressed poultry is being purchased of varying quality. The greatest range occurs with broilers and the smallest with roasters and fowl. During the second week of August prices paid for broilers varied from 40 to 55 cents a pound. It is important to note that the highest price, 55 cents a pound on August 8, and the lowest price, 35 cents a pound on August 1, reported by hotels F and C respectively were for local grown and dressed broilers. These data are shown to better advantage in Figure 4.

There was less difference in the prices paid for fowl than for broilers or roasters. The lowest price paid for local fowl, 32 cents a pound, equalled the quotation on that day. The highest price, 36 cents a pound, was also paid for local fowl and was 2 cents over quotations. In the case of roasters, the lowest price, 38 cents a pound, was paid by Hotel E for local dressed roasters. This price is 12 cents a pound below the market quotation of native fresh killed stock. On the other hand the price reported by Hotel C of 40 cents a pound for local dressed roasters and also for roasters from sources in Boston, is 10 cents below the highest market quotation for the same day. There are several instances where the hotels have reported prices 7 cents a pound below wholesale quotations when buying in Boston. It is doubtful if roasters purchased so much below the market are equal in quality to those represented in the quotation. Hotel I paid 55 cents a pound for roasters to local men and to Boston houses, which is 5 cents over the market quotation.

*Marketing Poultry Products—Benjamin, E. W. page 89. John Wiley and Sons, Inc.

On the whole, it would seem that the market for dressed poultry is available for local men at a premium price when they actually satisfy the demand.

Possibilities of Development

Every year more local men in the summer hotel section are dressing poultry and are not only marketing to large hotels on a wholesale basis but are doing more retail selling. Several stewards stated that they were able to purchase more local dressed poultry now than ever before. This was more true in regard to fowl than broilers because the former class was used for fricasse purposes which do not require as rigid attention to grading as do broilers.

A number of local poultrymen were visited and questioned as to their future intentions. One man stated that he expected to put in a refrigerator the following year so as to be able to supply a number of the large hotels with dressed poultry in his immediate section. Others were planning to increase their business. However, many of the men were frank enough to admit they could not afford to dress poultry and sell at wholesale prices. These remarks were usually the result of costly experience in attempting to dry-pick and dress poultry after approved methods. They were not made by those who had become proficient and reduced such costs to a minimum.

In order to test out the possibility of supplying from sources within the state, arrangements were made with three hotels to receive trial shipments of dressed broilers. The briolers were supplied by R. B. Thurrell of East Wolfeboro. A. W. Lohman of the Poultry Department had charge of the dressing and packing. All of the broilers were full-feathered and well-meated birds, weighing around 2¼ pounds alive. After dressing, wrapping heads, and packing one dozen broilers in a box, the net weight varied from 22¾ pounds to 23¾ pounds per box. These boxes were placed immediately in a refrigerator and held at approximately 35° until thoroughly chilled.

The broilers were inspected on arrival by the stewards. Two shipments gave complete satisfaction. One steward volunteered to pay two cents premium per pound over the Boston wholesale price if he could get this quality of broilers regularly throughout the season.

The success of these few shipments and other instances cited does not mean that New Hampshire poultrymen can profitably supply the White Mountain hotels on a large scale. The investigation has shown it is necessary that all dressed poultry be carefully graded as to class, weight and quality; also, that only the best grades are wanted by the hotel trade. Any future development would have to compete with the fresh killed poultry from the Middle West. Many of these packing houses are accustomed to making fifty grades of dressed poultry at one time.* One company which operates many plants where one to three thousand head are dressed daily reports average operating costs as $3.57 per cwt. of dressed poultry. Distribution of these costs are as follows: Supplies $.69; labor $1.50; fixed expense $.13; other expense $1.25.

*Marketing Poultry Products—Benjamin, E. W.—Page 116

At the present time, there is a small dressing and packing plant in the central part of the state doing retail and wholesale selling and operating all the year round. Live poultry is purchased at the plant 1 cent under the Boston wholesale quotation. Even though this plant has been operating several years it has experienced difficulty in finding sufficient poultry to supply its regular trade. A specialty is made of dressed fowl and roasters. Broilers are seldom handled because of the extra expense. The proprietor stated he could not afford to dress and sell broilers because of western competition.

It is still a matter of conjecture whether a large dressing plant could operate profitably all the year round; it is quite certain it would be impossible on a 3 or 4 months basis. Undoubtedly a large volume would make storing and distributing services more satisfactory. Furthermore, New Hampshire poultrymen have the definite advantage of being on the ground and securing any premium which the hotels are willing to pay.

SUMMARY

1. A survey was made of ten White Mountain summer hotels in 1928 to learn the demand for vegetables, eggs, and dressed poultry.
2. The investigation shows the hotel demand is very exacting and requires products of the highest quality during a three months period.
3. The hotels require a dependable source of supplies. In the past the local men who did not appreciate this necessity failed to develop the hotel market.
4. The hotel managements expressed a willingness to purchase local products when they are graded satisfactorily and priced in accordance with wholesale prices on the terminal markets because local products are fresher, more palatable and there is less waste.

   In general the prices paid by the hotels are above the highest wholesale quotations due to the better quality of products required.
5. Often local products have been so much superior to those shipped from outside sources that they have brought a premium. This is especially true for beets, carrots, green peas, head lettuce and spinach.
6. Vegetables are desired which equal at least the requirements of U. S. No. 1 and in many instances of U. S. Fancy grade.
7. Seasonal contracts for vegetable supplies were mutually beneficial to the hotels and local grower.
8. There are instances where local growers are successful and are increasing their acreage and volume of business yearly. Hotel gardens are being discontinued as local growers increase their business.

   Several sections are so well cared for by established growers that there is not room for others. However, there are sections where ample opportunities exist for further development.
9. Figures are not available as to cost of production and net profit in the growing of vegetables, and it will be necessary to make further investigation and study cost factors and adaptability to climatic conditions before general recommendations can be made.
10. Demand preferences were about equal as to color of eggs.

11. Eggs are desired of the best quality for frying, poaching and boiling; those of a lower grade are used for cooking and baking.
12. Yolks of uniform color are required in eggs used for frying.
13. Complaints were made that eggs from local sources were neither candled nor graded.
14. A brand of eggs coming from sources outside the state is giving entire satisfaction. These eggs are graded according to definite standards.
15. Prices paid for eggs by the hotels were above and below Boston wholesale quotations.
16. Local egg prices ranged from the lowest to the highest prices paid.
17. Many local producers are not endeavoring to furnish the large hotels with eggs because they are able to sell them elsewhere on a retail basis.
18. In general, dressed poultry which has been milkfed, freshly killed, dry-picked and uniformly graded as to size and quality, and neatly packed is required by the hotels.
19. Poultry meat was preferred from the heavy breeds because, with relatively more muscle fiber and less connective tissue, they have a more tender flesh.
20. Broilers are desired from the white feathered heavy breeds because the white pin feathers and hair follicles do not detract from their appearance when served.
21. The local dressed poultry does not equal in quality and appearance the boxed and fresh dressed poultry which is shipped in from outside sources.
22. A large percentage of fowl is purchased locally because it is used for fricasse purposes and does not require as rigid grading as broilers or roasters to satisfy the demand.
23. Prices paid for dressed poultry vary a great deal showing products of unequal quality are used.
24. Due to the variance of opinions shown by the stewards, any prospective producer should learn the demand preferences of each hotel.

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